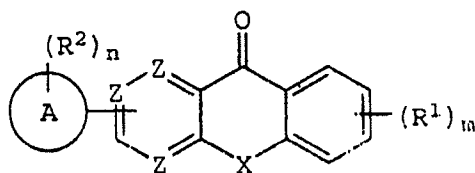


### AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims in this application with the following claims. Insertions are indicated by underlining and deletions are indicated by strikeouts or double bracketing.

1. (Currently amended) A DNA-PK inhibitor having a formula



or a pharmaceutically acceptable salt thereof,

wherein  $m$  is an integer 0 through 3;

$n$  is an integer 0 through 4;

$X$  is O, S(O)<sub>0-2</sub>, or NR<sup>a</sup>;

$Z$ , independently, is CR<sup>b</sup> or N;

$A$  is heteroaryl or a four- to seven-membered aliphatic ring containing 0, 1, 2, or 3 heteroatoms independently selected from the group consisting of N, O, and S;

$R^1$ , independently, is selected from the group consisting of halo, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, N(R<sup>d</sup>)<sub>2</sub>, OR<sup>d</sup>, ~~carboxyl~~, carboxy, wherein the carboxy is not carboxyl, nitro, OC<sub>1-3</sub>alkyleneN(R<sup>d</sup>)<sub>2</sub>, N(R<sup>d</sup>)-C<sub>1-3</sub>alkyleneN(R<sup>d</sup>)<sub>2</sub>, OC<sub>1-3</sub>alkyleneC(=O)OR<sup>d</sup>, O(C<sub>1-3</sub>alkylene) OP(=O)(OR<sup>d</sup>)<sub>2</sub>, O(C<sub>1-3</sub>alkylene)OP(=O)(ONa)<sub>2</sub>, OP(=O)-(OR<sup>d</sup>)<sub>2</sub>, OP(=O)(ONa)<sub>2</sub>, cyano, aldehyde, carboxamide, thiocarboxamide, acyl, mercapto, sulfonyl, trifluoromethyl, aryl, substituted aryl, heteroaryl, and substituted heteroaryl; or

two  $R^1$  groups are taken together with the atoms to which each is attached to form a 5-, 6-, or 7-membered ring, wherein 1 or 2 carbon atoms of  $R^1$  optionally is a heteroatom selected from the group consisting of O, N, and S, said ring optionally substituted with one or more =O, =S, =NH, OR<sup>c</sup>, N(R<sup>d</sup>)<sub>2</sub>, carboxyl, carboxy, alkyl, aryl, substituted aryl, heteroaryl, or substituted heterocaryl,

said heteroatom optionally substituted with a group selected from the group consisting of aryl, substituted aryl, alkyl, substituted alkyl, and acyl;

$R^2$ , independently, is selected from the group consisting of  $OR^d$ , halo,  $N(R^d)_2$ , aldehyde, alkyl, substituted alkyl, acyl, aryl, substituted aryl, heteroaryl, substituted heteroaryl,  $C_{1-3}alkyleneOR^d$ ,  $C(=O)N(R^d)_2$ ,  $N(R^d)_2$ ,  $(C=O)OR^d$ ,  $NO_2$ ,  $NR^dC(=O)R^d$ ,  $NR^d(SO_2)R^d$ ,  $OC_{1-3}alkyleneOR^d$ ,  $OC_{1-3}alkyleneOC_{1-3}alkyleneR^d$ ,  $OC(=O)R^d$ ,  $OC_{1-3}alkyleneC(=O)C_{1-3}alkyleneR^d$ , and  $(SO_3)R^d$ ;

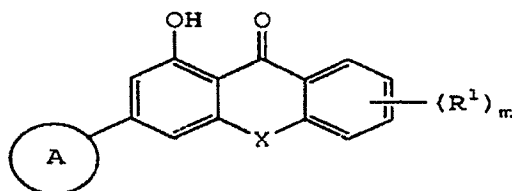
$R^a$  is selected from the group consisting of hydro,  $C_{1-4}alkyl$ , aryl, heteroaryl, cycloalkyl, heterocycloalkyl,  $C_{1-3}alkylenearyl$ ,  $C_{1-3}alkyleneheteroaryl$ ,  $C_{1-3}alkyleneheterocycloalkyl$ ,  $C_{1-4}alkylene-N(R^d)_2$ ,  $C_{1-4}alkyleneOR^d$ ,  $C_{1-4}alkyleneC(=O)OR^d$ ,  $C(=O)R^d$ ,  $C(=O)N(R^d)_2$ ,  $C(=O)OR^d$ ,  $C(=O)SR^d$ ,  $C(=S)N(R^d)_2$ ,  $SO_2R^d$ ,  $SO_2N(R^d)_2$ ,  $C(=O)NR^dC_{1-4}alkyleneOR^d$ ,  $C(=O)NR^dC_{1-4}alkyleneheterocycloalkyl$ ,  $C(=O)C_{1-4}alkylenearyl$ ,  $C(=O)C_{1-4}alkyleneheteroaryl$ ,  $C_{1-4}alkyleneC(=O)C_{1-4}alkylenearyl$ ,  $C_{1-4}alkyleneC(=O)C_{1-4}alkyleneheteroaryl$ ,  $C_{1-4}alkylene-C(=O)heterocycloalkyl$ ,  $C_{1-4}alkyleneNR^dC(=O)R^d$ ,  $C_{1-4}alkyleneOC_{1-4}alkyleneOR^d$ ,  $C_{1-4}alkyleneOC_{1-4}alkyleneC(=O)OR^d$ , and  $C_{1-4}alkyleneC(=O)N(R^d)_2$ ;

$R^b$ , independently, is selected from the group consisting of hydro, alkyl, halo, aldehyde,  $OR^d$ ,  $O(C_{1-3}alkylene)OP(=O)(OR^d)_2$ ,  $O(C_{1-3}alkylene)OP(=O)(ONa)_2$ ,  $OP(=O)(OR^d)_2$ ,  $OP(=O)(ONa)_2$ , nitro,  $N(R^d)_2$ , carboxyl, carboxy, sulfonamido, sulfamyl, and sulfo ~~or a halide derivative thereof~~; and

$R^d$ , independently, is selected from the group consisting of hydro, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, aryl,  $C_{1-3}alkylenearyl$ , substituted aryl, heteroaryl, and substituted heteroaryl.

2-8. (Canceled)

9. (Original) The inhibitor of claim 1 having a structure



- 10-21. (Canceled)

22. (Currently amended) A DNA-PK inhibitor selected from the group consisting of:  
~~trifluoromethanesulfonic acid 1-hydroxy-9-oxo-9H-xanthen-3-yl ester;~~  
 1-hydroxy-3-morpholin-4-yl-xanthen-9-one;  
~~1-hydroxy-6-methoxy-3-trifluoromethanesulfonylxanthen-9-one ester;~~  
 1-hydroxy-6-methoxy-3-morpholin-4-yl-xanthen-9-one;  
 6-fluoro-1-hydroxy-3-morpholin-4-yl-xanthen-o-one;  
 1-hydroxy-6-(4-methylpiperazin-1-yl)-3-morpholin-4-yl-xanthen-9-one;  
 1-(8-hydroxy-6-morpholin-4-yl-9-oxo-9H-xanthen-3-yl)-piperidine-4-carboxylic acid  
 amide; trifluoromethanesulfonic acid; ~~1-hydroxy-9-oxo-9,10-dihydro-acridin-3-yl ester;~~ and 1-  
 hydroxy-3-morpholin-4-yl-10H-acridi-9-one.

23. (Previously presented) A pharmaceutical composition comprising (a) DNA-PK inhibitor of claim 1 and (b) a pharmaceutically acceptable carrier or diluent.

24. (Previously presented) A pharmaceutical composition comprising (a) a DNA-PK inhibitor of claim 1 and (b) an antineoplastic agent.

- 25-53. (Canceled)